FRANCO SALIOLA, LACIM / UQAM

Left Regular Bands of Groups and the Mantaci-Reutenauer Algebra

In a highly influential paper, Bidigare, Hanlon and Rockmore showed that a number of popular Markov chains are random walks on the faces of a hyperplane arrangement. The analysis of these Markov chains takes advantage of the monoid structure on the set of faces. This theory was later extended by Brown to a larger class of monoids called left regular bands (LRBs).

This talk will explore a generalization called *LRBs of Groups* (LRBGs) that delightfully mixes LRBs and group theory. The principal example throughout will be a LRBG defined by S. Hsiao, which links the braid arrangement with the Mantaci-Reutenauer algebra. The talk is based on joint work with Jose Bastidas and Sarah Brauner.